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HAMILTON WATERFRONT STUDY
TRANSPORTATION ISSUES AND OPTIONS

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1. INTRODUCTION

This workpaper summarizes preliminary issues and transportation findings with respect to the Hamilton Waterfront Study. The enclosed data will form the basis for subsequent review and evaluation of the likely transportation infrastructure requirements to serve a range of proposed recreational uses for the subject lands.

Subsequent sections of this workpaper are described below:

Design Objectives and Issues. Key site access design objectives and constraints are summarized on the basis of input from a variety of sources. In addition, a number of future planning issues which will affect the overall accessibility of the site, are highlighted.

Existing Conditions. An overview of existing traffic and road network conditions in the study environs is presented as a basis for development of a plan of preferred vehicular access routes.

Alternative Vehicular Access Concepts. Guidelines to gauge the level of vehicular accessibility required for various development intensities, are presented. Alternative site access routes and circulation requirements are identified based upon the aforementioned **design objectives and issues**.

Findings. Tentative conclusions are summarized.

2. DESIGN OBJECTIVES AND ISSUES

Based upon a review of the accessibility requirements of proposed site uses within the context of the study area environment, the following **design objectives** have been identified.

Public Transit.

- A base level of transit service is definitely required. Level of service will be dictated by the intensity of proposed site uses.

Regional Vehicular Access

- Vehicular access should be focussed onto specific streets/corridors. Designated access streets should be as direct and as free of jogs as possible in order to maximize awareness of the site location and to reinforce use of the appropriate access streets; i.e., to minimize use of local streets.
- Regional access routes and connections from/to arterial roads oriented in the three cardinal approach/departure directions should be defined. These could include York Boulevard/Hwy 403 to the west, the Victoria/Wellington or James/John one-way pairs to the south (Mountain), and Burlington Street to the east.

Local Vehicular Access

- Intrusion of site traffic through the established North End neighbourhoods should be minimized.
- Vehicular access to the site should be provided from at least two different locations. Connections in the vicinity of Guise Street in the north and in the Bay/Simcoe/Strachan environs in the south, appear to represent the only practical near-term options.

Parking Supply

- Adequate parking to accommodate recurring maximum projected design attendance should be provided so as to minimize any impacts on adjacent streets.
- On-site parking should be conveniently located with respect to major attractions.

Currently unresolved planning issues which will affect the transportation evaluation of proposed site uses are discussed below:

James Street North Heritage Study. Key recommendations arising out of this recently released study include the reversion of James Street to two-way operation with relaxation of peak period parking restrictions. Although a two-way site access route is generally preferred from a market accessibility perspective, there would be a corresponding decrease in overall road network (site access) capacity.

GO-ALRT. Feasibility studies for the introduction of Advanced Light Rail transit in the Hamilton - Oakville corridor culminated in the recommendation of an elevated alignment in the site environs extending along York Boulevard, terminating in the Wilson/James vicinity in the downtown.

Ongoing studies of the feasibility of alternative transit technologies, and subsequent resolutions of Hamilton council, suggest that future interregional rapid transit needs may be best served by conventional heavy rail service. Should this decision be made, additional studies would be required to assess the preferred heavy rail route for the Hamilton - Burlington link. One of the two most likely options would extend along the CNR tracks and through the yards located immediately south of the Lax Brothers property. A station on this line which would serve site uses directly would be desirable, but likely would be warranted only in the case of the most active of potential site uses. Moreover, difficulties arising from inadequate spacing between the site and the existing John Street station would need to be resolved.

Industrial Perimeter Road. The introduction of this planned road would significantly upgrade the actual and perceived accessibility of the site, providing direct, controlled-access connections in two of the three cardinal directions. Figure 3 schematically illustrates one of the conceptual designs for Perimeter Road interchange locations in the site environs. As indicated, access to the subject lands from this new facility could be achieved largely from Bay Street. Alternatively, selected additional ramps could be developed to provide direct access to the site, if demands warrant.

Notwithstanding longer-term site accessibility benefits, it appears that implementation of the Perimeter Road is at least 10 years away. For the near-term, therefore, site access planning should not rely on this proposed facility. However, due consideration should be given to how site access would be handled at the time of Perimeter Road implementation.

North End Traffic Study. The City of Hamilton Traffic Department has recently undertaken a comprehensive review of traffic flow conditions in the North End neighbourhood, specifically focussing on the concerns of area residents relating to traffic infiltration. A number of traffic diversion and operational control strategies were evaluated and a preferred option was identified -- one which essentially involves the severing of through traffic movements on Bay Street at a point just north of Simcoe Street. The report and accompanying recommendations are currently under review by other City Departments. The preferred traffic control scheme is consistent with the objectives and likely requirements of accommodating a major site access point in the Bay/Simcoe intersection environs.

On-Site Circulation and Access. One key design issue to be resolved is the question of need for an internal site circulation driveway connecting, not only all tributary parking areas, but also the two external access points to the public street system. In large part, this issue is related to the need for and desirability of serving proposed new site uses on the Lax Brothers property by one versus two external access point locations.

3. EXISTING CONDITIONS

Figure 1 schematically illustrates the continuity of and direction of flow along key streets in the site environs. Figure 2 summarizes existing traffic loadings on the area street along with the effective number of traffic lanes available to accommodate these demands. A review of these data suggests the following:

- Most of the north-south streets have one-way segments over part or all of their length, thereby complicating two-way access.
- James and John Streets provide the most continuous north-south connections, however many of the abutting land uses are sensitive residential and/or school uses within the North End neighbourhood (north of Strachan).
- The relatively narrow section of Bay Street between Stuart and Barton Streets limits the effective capacity of this road. Stuart/Queen and Locke Streets handle the overflow.
- Barton Street is the most heavily travelled road in the study area, and will likely serve as a distributor of site traffic to other streets. It is not a particularly attractive option for designation as a key site approach/departure route due to its limited appeal for longer-distance trips.
- Burlington Street is a heavily - travelled, major road east of the study area and represents a logical route to serve the east corridor and, indirectly, the south corridor via connections to the Victoria/Wellington couplet. A suitable connection will need to be developed, however, between Burlington Street within the study area and Guise Street, the northern site access point.

4. ALTERNATIVE VEHICULAR ACCESS CONCEPTS

4.1 Design Parameters

Although the specific site uses comprising a high-activity development concept have not been determined, some general observations can be made about their likely **demand** (traffic-generating) characteristics in relation to corresponding available **capacity** on the public street system.

- Peak site traffic flows should not overlap with the busiest rush hour periods on the public street system. Site-generated activity will peak during the arrival and departure periods immediately before and after a forum/theatre-type event. This would typically occur during mid to late weekday evenings and during the mid-afternoon and evening on weekends.
- Site access demands during the street system peak periods are expected to be quite modest.
- Available (residual) capacity on the public street system during peak site access periods will vary depending upon the specific time period and the street segment under consideration, in particular the nature of the tributary land uses. For preliminary corridor review purposes only, it is suggested that a representative off-peak residual capacity figure of 400 hourly vehicles* per lane be used. Residual capacities at site access points and on the immediately connecting streets would, of course, be significantly higher due to the predominance of site-related activity and resultant favourable orientation of traffic control devices.

* Based upon review of background data traffic from the **Stadium Study Committee Report**, February, 1984.

4.2 Alternative Access Routes - With Site Circulation Road

Figure 4A schematically illustrates a number of alternative access routes connecting to the major travel corridors in the case where a continuous site circulation driveway is provided between two site access points. Key options include the following:

- **East Corridor (Burlington Street)**
 - connection to Guise via Dock Service Road
 - alternate connection to Guise via Brock/Mary Streets
- **South Corridor**
 - connection to Victoria/Wellington via Burlington Street
 - connection to James/John via upgraded Strachan Street
- **South/West Corridor**
 - use of Bay Street as is
 - revert Bay to one-way northbound and pair with James via an extension of Stuart Street (or upgraded Strachan Street).
 - connection to Queen/Locke Streets via Stuart Street.

An internal connection between the two site access points will facilitate a balanced distribution of site traffic movements. Traffic oriented to the Burlington Street corridor can use the northern access point without having to make the connection from the Bay/Simcoe (south access) environs -- movements which may traverse sensitive streets within the North End neighbourhood. The design of the connector route between Burlington Street and Guise Street should incorporate specific elements to discourage the use of inappropriate street segments.

4.3 Alternate Access Routes - Without Site Circulation Road

Figure 4B illustrates the comparable range of route options wherein access to the high-activity site uses is only provided at the one (southerly) location. Of course, access to the existing boating facilities (Pier 4) and non-intensive site uses would continue to be provided via Guise Street/Leander Drive. Key access options and implications for the new intensive site uses are as follows:

- **East Corridor (Burlington Street)**
 - connection to upgraded Strachan Street via Ferguson
 - connection via an easterly stage of the Perimeter Road to Victoria/Wellington
- **South Corridor**
 - connection to Victoria/Wellington via Perimeter Road
 - connection to James/John via upgraded Strachan Street
- **South/West Corridor**
 - identical to previous section 4.2

The challenge with only one (southerly) major site access is to develop a viable connection to the Burlington Street corridor. Strachan Street has some potential via use of Streets such as Mary or Ferguson Avenue, however it would likely be difficult to limit use of other intermediate route choices such as James, Hughson and John Streets. Certainly the introduction of an interim (easterly) stage of the Perimeter Road would provide an extremely attractive and viable alternative to access the Burlington Street corridor -- for site-related and other traffic needs. As discussed previously, however, the timing and design details for this project have not been resolved.

5. FINDINGS

- The peak traffic-generating periods of the more intense site uses under consideration tend to occur during weekday evenings and weekends. Site traffic generation during the normal rush hour period on the public street system will likely be quite modest.
- Viable connections between the site and major arterial roads serving the three cardinal approach/departure directions are essential to maintain acceptable levels of site accessibility and minimize the potential for infiltration of site traffic onto local (North End neighbourhood) streets.
- Networks of alternative designated approach/departure routes have been identified for two cases -- an option with two access points connected with an internal driveway, and a second option which essentially operates with one access only. Unless an interim stage of the Perimeter Industrial Road can be introduced at an earlier-than-expected timeframe, the option with two access points is clearly preferred.
- Identified site access roads are, for the most part, simply existing streets. Depending upon the intensity level being considered, not all of the indicated route options would be required to serve site uses. Additional off-site road improvements or operational changes considered which are not now in place include the following:
 - upgrading/extension of the Dock Service Road
 - upgrading of Strachan Street
 - extension of Stuart Street, east to James Street
 - severing of through traffic functions on Bay Street immediately north of the Simcoe Street intersection
 - reversion of Bay Street to one-way northbound between Cannon and Simcoe Streets
 - introduction of the first (easterly) phase of the Hamilton Perimeter Road

Figure 1
STUDY AREA STREET NETWORK CONTINUITY

- STOP SIGN
- TRAFFIC SIGNAL
- ONE-WAY STREET

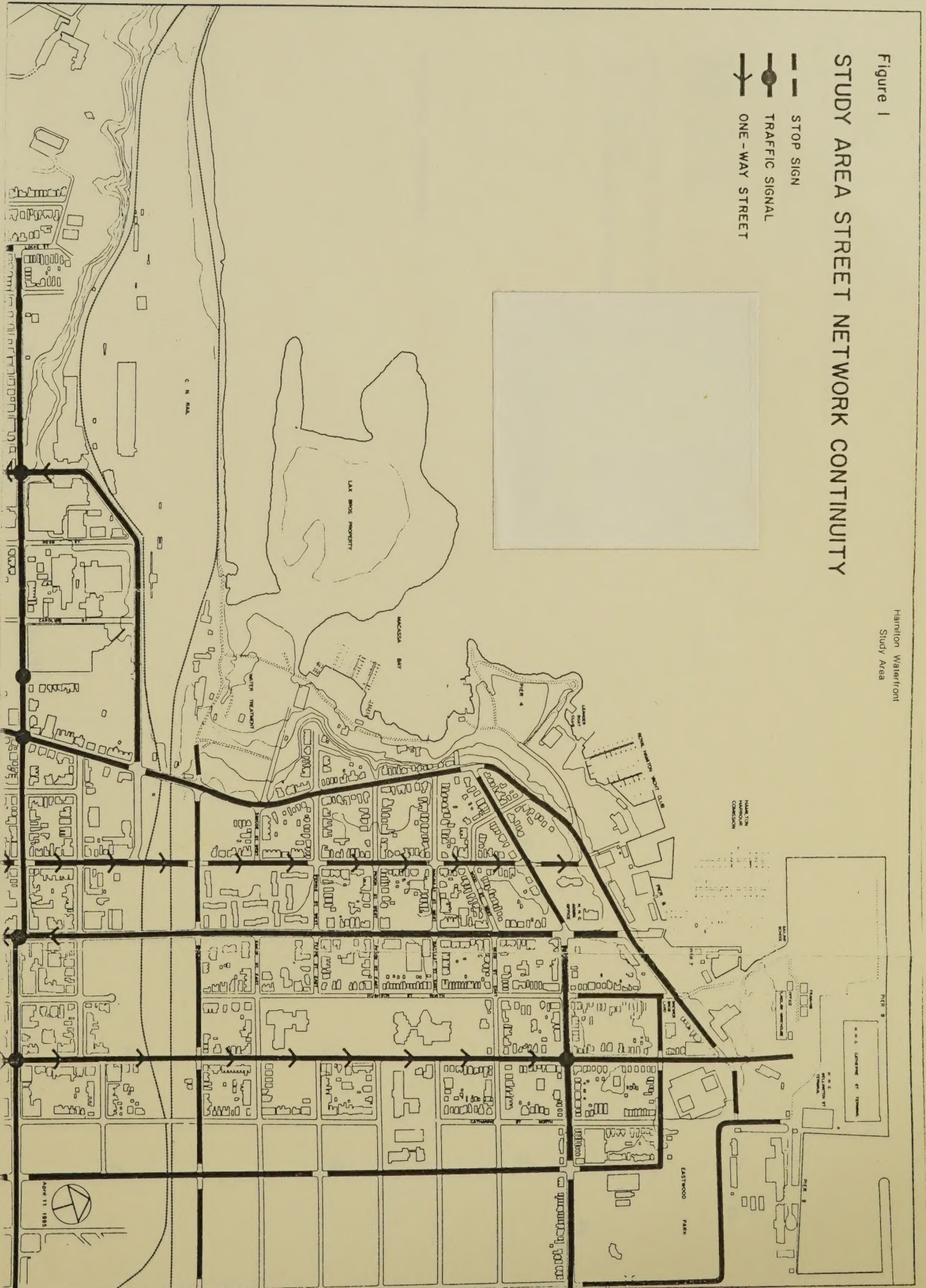


Figure 2

Hamilton Waterfront
Study Area

STUDY AREA TRAFFIC FLOWS

EXISTING 24 HOUR VOLUMES *

- ● ● <1000
- 1000 - 3000
- ▬ 3000 - 5000
- ▬ 5000 - 10000
- ▬ 10000 - 15000

EFFECTIVE NUMBER TRAFFIC LANES

XXL - ALL DAY
(YYL) - PEAK PERIODS, IF APPLICABLE

*VOLUMES APPROXIMATE

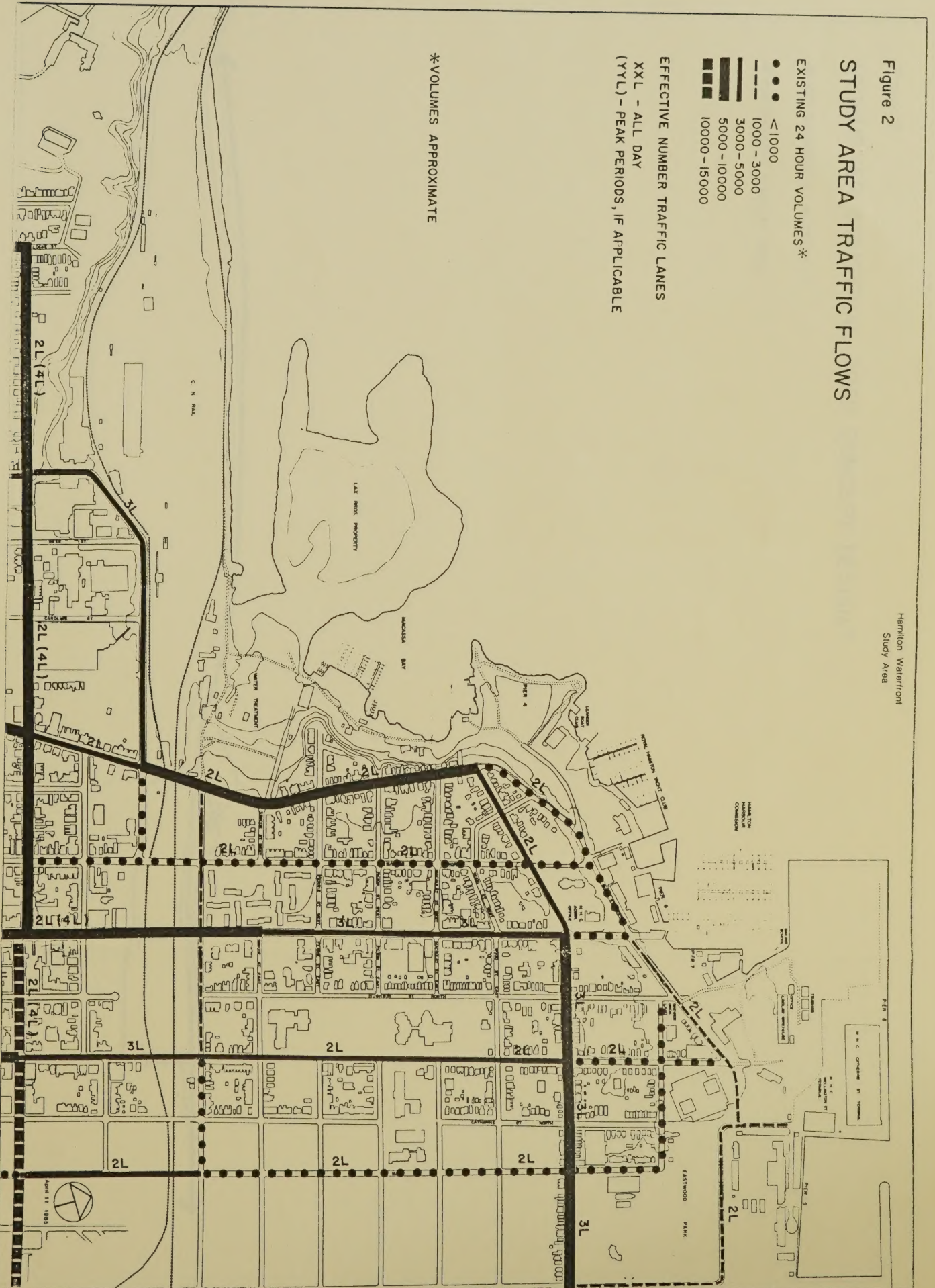


Figure 3

Hamilton Waterfront
Study Area

PERIMETER INDUSTRIAL ROAD CONCEPT DESIGN*

● KEY CONNECTOR LOCATION

* PRELIMINARY CONCEPT ONLY

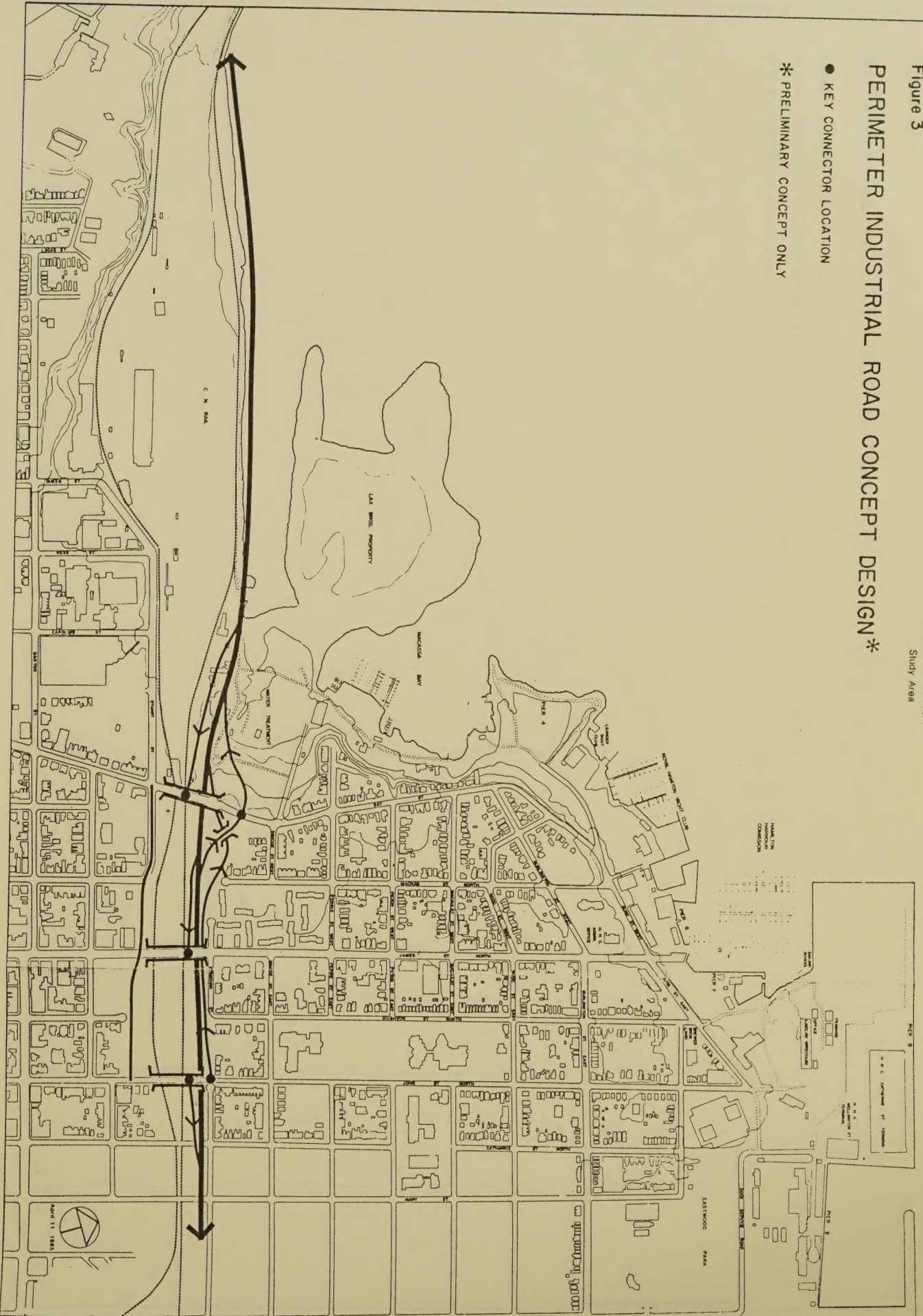
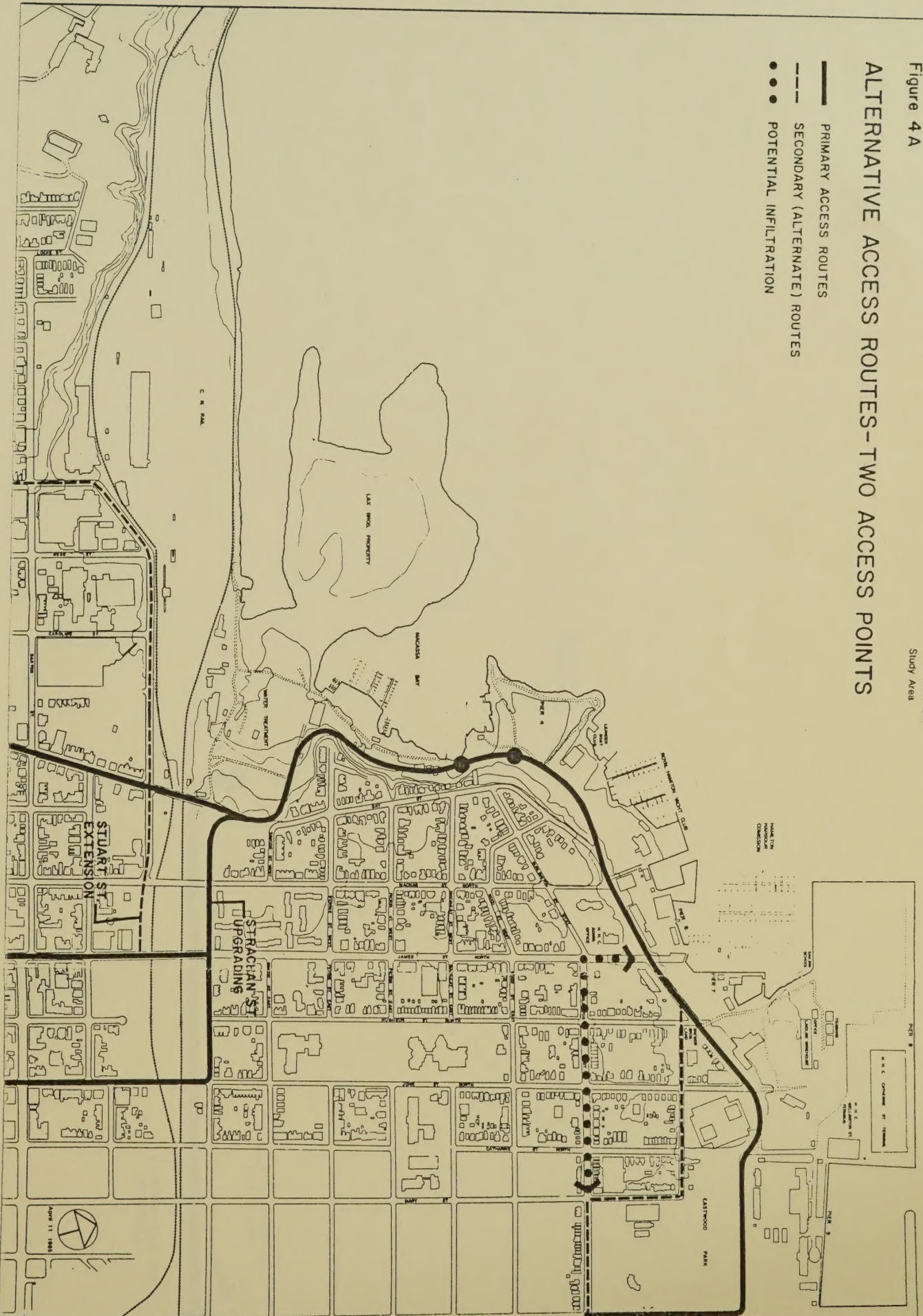


Figure 4 A

Hermiton Waterfront
Study Area

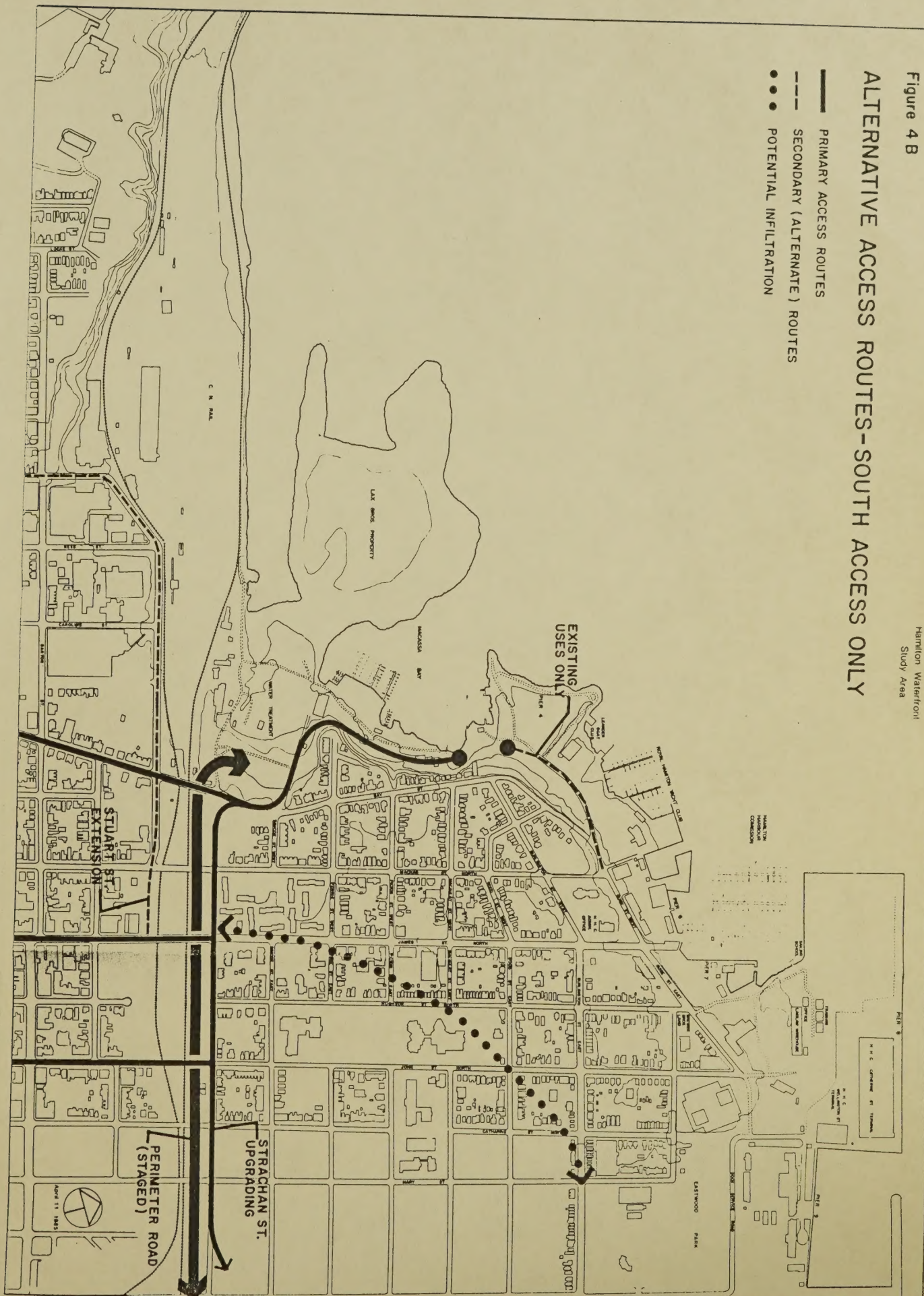
ALTERNATIVE ACCESS ROUTES-TWO ACCESS POINTS

- PRIMARY ACCESS ROUTES
- SECONDARY (ALTERNATE) ROUTES
- POTENTIAL INFILTRATION



Hamilton Waterfront
Study Area

- PRIMARY ACCESS ROUTES
- SECONDARY (ALTERNATE) ROUTES
- POTENTIAL INFILTRATION



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